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10/529,085	03/24/2005	Oliver Schramm	282720US8XPCT	1991
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OBLON, SPIVAK, MCCLELLAND MAIER & NEUSTADT, L.L.P. 1940 DUKE STREET ALEXANDRIA, VA 22314				NOORISTANY, SULAIMAN
ART UNIT		PAPER NUMBER		
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No.	Applicant(s)	
	10/529,085	SCHRAMM ET AL.	
	Examiner	Art Unit	
	SULAIMAN NOORISTANY	2446	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 24 March 2005.
 2a) This action is FINAL. 2b) This action is non-final.
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-31 is/are pending in the application.
 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
 5) Claim(s) _____ is/are allowed.
 6) Claim(s) 1-31 is/are rejected.
 7) Claim(s) _____ is/are objected to.
 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
 10) The drawing(s) filed on 24 March 2005 is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ . |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>3/24/2005, 8/12/2009</u> . | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| | 6) <input type="checkbox"/> Other: _____ . |

Detailed Action

This Office Action is response to the application (10529085) filed on 03/24/2005

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

Claims 1-31 are rejected under 112, second paragraph as being indefinite for failing to particularly point and distinctly claim the subject matter which applicant regards as the invention

In claim 1, “the current situation” in line 3 there is insufficient antecedent basis for this limitation in the claim. However, the claims will be given a broad reasonable interpretation for the purposes of examination as best understood. Appropriate correction is required.

In claim 1, “the intrinsic” in line 5 there is insufficient antecedent basis for this limitation in the claim. However, the claims will be given a broad reasonable interpretation for the purposes of examination as best understood. Appropriate correction is required.

In claim 1, “the vocabulary and language” in line 5 there is insufficient antecedent basis for this limitation in the claim. However, the claims will be given a broad reasonable interpretation for the purposes of examination as best understood. Appropriate correction is required.

In claim 2, “the available media” in line 2 there is insufficient antecedent basis for this limitation in the claim. However, the claims will be given a broad reasonable interpretation for the purposes of examination as best understood. Appropriate correction is required.

In claim 3, “the interactive parameters” in line 2 there is insufficient antecedent basis for this limitation in the claim. However, the claims will be given a broad reasonable interpretation for the purposes of examination as best understood. Appropriate correction is required.

In claim 4, “the constraints” in line 3 there is insufficient antecedent basis for this limitation in the claim. However, the claims will be given a broad reasonable interpretation for the purposes of examination as best understood. Appropriate correction is required.

In claims 6-7, “the association” in line 3 there is insufficient antecedent basis for this limitation in the claim. However, the claims will be given a broad reasonable interpretation for the purposes of examination as best understood. Appropriate correction is required.

In claims 11-13, “the linking structure” in line 3 there is insufficient antecedent basis for this limitation in the claim. However, the claims will be given a broad reasonable

interpretation for the purposes of examination as best understood. Appropriate correction is required.

In claims 14-15, 24 and 26-31, the term “in that” in line 2 is superfluous and may cause the claim to be indefinite. However, the claims will be given a broad reasonable interpretation for the purposes of examination as best understood. Appropriate correction is required.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a), which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-3, 5-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over **RUTLEDGE L: "SMIL 2.0: XML for Web multimedia" IEEE INTERNET COMPUTING, IEEE SERVICE CENTER, PISCATAWAY, September 2001, in view of Yoshimura: "Mobile Streaming Media CDN Enabled by Dynamic SMIL", MAY 2002.**

Regarding claim 1, Rutledge teaches wherein a method for describing adaptive mobile multimedia applications and/or presentations, whose playback behavior inherently depends on the current situation at runtime, the method being based on an XML-based document model and comprising the step of

-describing the intrinsic adaptation possibilities of application and/or presentations, which run in a network environment (**SMIL's HTML-like syntax “is here considered as language rules, grammar, sentence structure” aims to do for multimedia that bring it into every living room, which an easy-to-author descriptive format that works with readily available cross-platform players – page. 78. para.** “**SMIL 2.0 XML for Web Multimedia**”), in an Adaptation Module comprising the vocabulary and language structure (**Fig. 2, in Fiet, used the system language (attribute or structure) to indicate that an element is only appropriate for user fluent in that stated language “e.g., user can select either English or Dutch”** – **page. 81. para. Adaptively; page. 78-79**) required for describing the adaptation possibilities of said adaptive applications (e.g., **SMIL helps you achieving this through adaptively, letting you tailor content according to characteristics such as language “is here considered as syntax”, perceptual ability, and computing environment -- page. 81. para. Adaptively “e.g., multimedia is accessible to users by offering a spoken account or visual presentation elements”**).

However, Rutledge does not explicitly disclose the term “mobile network” Yoshimura teaches that it is well known to have a system wherein application and/or presentations, which run in a mobile network (e.g., **3G mobile network – page. 651, Figs. 1-2, 6, 10, 14-16**) in order to make a mobile streaming media CDN (MSM-CDN) that enhances streaming media quality for mobile clients while utilizing network resources efficiently and supporting client mobility in an integrated and practical way.

Thus, a mobile streaming media CDN architecture in which all of the technologies related to CDN are enabled by SMIL modification. In this architecture, mobile clients simply follow the SMIL file downloaded from the streaming portal server, and this leads to multimedia content delivery from the best surrogates in the CDN, as taught by Yoshimura (Page. 660).

Regarding claim 2, Rutledge and Yoshimura taught the method according to claim 1 above. Rutledge teaches wherein furthermore comprising the step of describing the available media for the application and/or presentation in a MediaItems Module (“e.g.,

Fig. 1. Display of Fiet greeting section, set for Dutuch caption, on GRiNS player “here is same as mediaitems module that run media” for SMIL 2.0. Display of Fiets thumbnail section, on RealPlayer “here is same as mediaitems module that run the media”) comprising the vocabulary and language structure required for describing the media items used within said adaptive applications (“e.g., user can select either English or Dutch” – page. 78-79, para. SMIL 2.0 Features; page.82. para. Adaptivity; Fig. 2)

Regarding claim 3, Rutledge and Yoshimura taught the method according to claim 1 above. Rutledge teaches wherein furthermore comprising the step of describing the interaction parameters of the application/presentation in an Interactions Module (**Fig. 3, SMIL layout module that let user position regions within containing blocks. Page. 81**) comprising the vocabulary and language structure required for describing the interaction possibilities used for said adaptive applications (e.g., Fig. 1a-1b show an example SMIL presentationintractive multimedia tour of Amsterdam “e.g., Fig.

1. Display of Fiet greeting section, set for Dutuch caption, on GRiNS player for SMIL 2.0. Display of Fiets thumbnail section, on RealPlayer).

Regarding claim 5, Rutledge and Yoshimura taught the method according to claim 4 above. Rutledge further teaches wherein furthermore comprising the step of changing the language structure and vocabulary of the modules in an Events Module comprising the vocabulary and language structure required for describing the event possibilities used in said mobile applications (**Fig. 1a-1b show an example SMIL presentation “e.g., user can select either English or Dutch language for hearing the Fiet shows closed caption through the button on the display “Button here is considered as even module” – page. 78-79).**

Regarding claim 6, Rutledge and Yoshimura taught the method according to claim 1 above. Rutledge further teaches wherein furthermore comprising the step of describing the association between the Adaptation Module and the MediaItems Module, represented by a link (**Linking “e.g., in HTMAL, SMIL's primary linking constructs are the element contains media that user can click (or otherwise activate) to trigger the link”– page. 82).**

Regarding claim 7, Rutledge and Yoshimura taught the method according to claim 1 above. Rutledge further teaches wherein furthermore comprising the step of describing the association between the Adaptation Module and the Interactions Module, represented by a link (**Linking “e.g., URI to the content is triggered by the link, such**

another SMIL presentation where the SMIL's hyperlinking construct provide the key navigation path for user to traverse through the web multimedia” – page. 82).

Regarding claim 8, Rutledge and Yoshimura taught the method according to claim 1 above. Rutledge further teaches wherein a method for describing a XML-based document serving as a connection layer between a middleware framework supporting mobile adaptive multimedia applications and an authoring system supporting the generation of mobile adaptive multimedia applications (structure and vocabulary) as described in claim 1, characterized in that the description is carried out by means of a language comprising:

at least one Medialtems Module serving as a description unit for available media items within said multimedia applications (**SMIL’s features fall into five categories: media content, layout, timing, linking, and adaptively – page. 78-83),** at least one Layout Module which organizes said media items into regions on the visual rendering surface of a mobile display device (**SMIL’s features fall into five categories: media content, layout, timing, linking, and adaptively – page. 78-83),** and at least one Adaptation Module which controls a context-aware adaptation of said distributed multimedia applications by referencing elements of the Medialtems Module (**SMIL’s features fall into five categories: media content, layout, timing, linking, and adaptively – page. 78-83).**

Regarding claim 9, Rutledge and Yoshimura taught the method according to claim 1 above. Yoshimura further teaches wherein at least one Events Module which allows to

react on changes of various resources encompassing user's physical environment (location, temperature), user's context, quality-of-service (QoS) conditions of the applied networks, and mobile device capabilities (**The QoS management server has SOAP interfaces for QoS policy setup, traffic monitoring, and event notifications – Fig. 14, page. 658**)

Regarding claim 10, Rutledge and Yoshimura taught the method according to claim 1 above. Yoshimura further teaches wherein said middleware framework allows each running mobile multimedia application to specify the media it wants to use and the relationships between these media, calculates the adaptation possibilities of mobile multimedia applications and controls the adaptation process in dependent on the current situation (**a mobile QoS testbed called “MOBIQ – Fig. 14**).

Regarding claim 11, Rutledge and Yoshimura taught the method according to claim 1 above. Yoshimura further teaches wherein characterized by the step of modifying the linking structure between the Adaptation Module and the MedialItems Module in case the current situation has changed (**link conditions are dynamically changed depending on the time and place – page. 652**).

Regarding claim 12, Rutledge and Yoshimura taught the method according to claim 1 above. Yoshimura further teaches wherein characterized by the step of modifying the linking structure between the MedialItems Module and the Layout Module in case the current situation has changed (**Fig. 5. Modified SMIL file after content segmentation**).

Regarding claim 13, Rutledge and Yoshimura taught the method according to claim 1 above. Yoshimura further teaches wherein characterized by of modifying the linking structure between the Interactions Module and the Layout Module in case the current situation has changed (**Fig. 6. Request routing procedure by SMIL modification**).

Regarding claim 14, Rutledge and Yoshimura taught the method according to claim 1 above. Rutledge further teaches wherein characterized in that the document linking structure and/or the document structure and document vocabulary itself are modified by user interactions (**SMIL's HTML-like syntax aims to do for multimedia that bring it into every living room, which an easy-to-author descriptive format that works with readily available cross-platform players – page. 78. para.“SMIL 2.0 XML for Web Multimedia”**).

Regarding claim 15, Rutledge and Yoshimura taught the method according to claim 1 above. Rutledge further teaches wherein characterized in that user interactions, which are used to modify the document linking structure and the document itself, are described by the Interactions Module (**Linking – page. 82**).

Regarding claim 16, Rutledge and Yoshimura taught the method according to claim 1 above. Yoshimura further teaches wherein characterized by dynamically binding media items to a specific region on the visual rendering surface of the mobile display device with the aid of the Events Module, initiated by changes of the current situation (**Fig. 16 Picture of streaming client**).

Regarding claim 17, Rutledge and Yoshimura taught the method according to claim 1 above. Yoshimura further teaches wherein characterized by dynamically binding widgets to a specific region on the visual rendering surface of the mobile display device with the aid of the Events Module, initiated by changes of the current situation (**Fig. 16 Picture of streaming client**).

Regarding claim 18, Rutledge and Yoshimura taught the method according to claim 1 above. Yoshimura further teaches wherein characterized by the step of an extending or newly specifying at least one attribute of at least one element of the Layout Module in order to adapt the visual component of a specific media item to the dimension of those regions on the applied mobile display device which are intended for multimedia presentations by scaling scaling-up/scaling-down the visual size of said media item or replacing the said media item dependent on the current situation (**Fig. 5. Modified SMIL file after content segmentation**).

Regarding claim 19, Rutledge and Yoshimura taught the method according to claim 1 above. Yoshimura further teaches wherein characterized by describing alternative media items of the MediaItems Module used in the Adaptation Module by means of media-specific information encompassing bandwidth and size of the visual portion of a multimedia presentation, meta information encompassing the name, the genre, and the actor of the media in case of a media item of type video, and/or inline information or a reference to external resources by the usage of Universal Resource Identifiers (URIs) (**Fig. 7 shows an example of the SMIL file whose content locations are modified to indicate surrogate locations. The original URLs of the segments shown in Fig. 5**

are replaced by the surrogate URLs. The locations of the segments could be different).

Regarding claim 20, Rutledge and Yoshimura taught the method according to claim 1 above. Yoshimura further teaches wherein, comprising the step of specifying various alternatives both at start-up time and in case of changes of the current situation by means of a "choose" element of the Adaptation module (**Fig. 9 -- CLM recalculates the start time and the request times for each segment, and changes the pre-fetch status to ACTIVE. The same procedure is taken when the client skips or goes back to the segments – page 656**).

Regarding claim 21, Rutledge and Yoshimura taught the method according to claim 1 above. Yoshimura further teaches wherein, characterized by the steps of selecting the most appropriate adaptation possibility at start-up time, continuously monitoring the network conditions, the available mobile device capabilities and/or the user context, and selecting the most appropriate adaptation possibility in case of changing network conditions, mobile device capabilities and/or user context (**"RTP monitoring agent" and a QoS control mechanism utilizing the RTP monitoring agent – page. 657 "QoS Control Surrogate"**).

Regarding claim 22, Rutledge and Yoshimura taught the method according to claim 1 above. Yoshimura further teaches wherein characterized by the step of influencing the adaptation control process by the usage of priority attributes supported by the respective elements of the Adaptation Module (**ALTQ provides packet classifier**,

packet scheduling disciplines including Priority Queueing – page 658 “System Prototype”).

Regarding claim 23, Rutledge and Yoshimura taught the method according to claim 1 above. Rutledge further teaches wherein, comprising the step of using a Par Element of the Adaptation Module for defining a simple time grouping in which multiple elements must be played back at the same time (**The <par> element specifies that its children play in parallel, starting in the same time – page. 81).**

Regarding claim 24, Rutledge and Yoshimura taught the method according to claim 1 above. Rutledge further teaches wherein, characterized in that the adaptation possibilities are calculated with the aid of a Boolean term expressed by a Disjunctive Normal Form (DNF) on a set of different media items, wherein a "choose" element is considered as an "OR" operator (**the <seq> element is a sequence of videos plays each video until it ends, the starts the next video - page. 81**) and a "par" element as an "AND" operator, from which one conjunction of the Disjunctive Normal Form (DNF) (**The <par> element specifies that its children play in parallel, starting in the same time – page. 81)**

Yoshimura further teaches wherein the adaptation possibility, is selected, depending on the quality-of-service (QoS) of the applied networks, the mobile device capabilities and the user context (**Fig. 14-16 - QoS**).

Claims 4, 25-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over **RUTLEDGE L: "SMIL 2.0: XML for Web multimedia"** IEEE INTERNET COMPUTING, IEEE SERVICE CENTER, PISCATAWAY, September 2001, in view of **Barrus US Patent No. US 6,693,652** further in view of **Yoshimura: "Mobile Streaming Media CDN Enabled by Dynamic SMIL"**, **MAY 2002.**

Regarding claim 4, Rutledge and Yoshimura taught the method according to claim 1 above.

However, Rutledge and Yoshimura do not explicitly disclose “the step of describing the constraints of the adaptation process”

Barrus teaches that it is well known to have a system wherein the step of describing the constraints of the adaptation process in a Constraints Module (**Fig. 1, unit 150 “Control unit”; Fig. 16**) in order to make the system more efficient to provide an influence system where electronic documents or media files are generated by one or more application programs executed by control unit including, without limitation for example, a program written in Java running on top of an operating system like WINDOWS.RTM. or UNIX.RTM. based operating systems where a media file may be able to run in different media configurations.

Thus, it would have been obvious to one ordinary skill in the art to modify Rutledge’s invention by utilizing a control unit to provide an influence system where electronic documents or media files are generated by one or more application programs executed by control unit including, without limitation for example, a program written in

Java running on top of an operating system like WINDOWS.RTM. or UNIX.RTM. based operating systems where a media file may be able to run in different media configurations, as taught by Barrus (Fig. 1, 16).

Regarding claim 25, Rutledge, Barrus and Yoshimura taught the method according to claim 1 above. Barrus further teaches wherein, characterized by the step of using an "Adaptation Description Module" which provides the "choose" element with a "startmode" attribute for modifying its default behavior, which specifies at which playtime a specific media, especially continuous media, is started after an adaptation has been executed due to the change of the current situation (**a set of on-screen or physical buttons are used to control recording. Buttons for audio control are well-known and include "Record", "Play", "Stop", "Pause", "Fast Forward", "Rewind" – col. 5, lines 57-60**).

Regarding claim 26, Rutledge, Barrus and Yoshimura taught the method according to claim 1 above. Barrus further teaches wherein, characterized in that the continuous media item is replaced by a different continuous media item due to the change of the current situation, and the new one is simply started according to a media item's "startmode" attribute (**a set of on-screen or physical buttons are used to control recording. Buttons for audio control are well-known and include "Record", "Play", "Stop", "Pause", "Fast Forward", "Rewind" – col. 5, lines 57-60**).

Regarding claim 27, Rutledge, Barrus and Yoshimura taught the method according to claim 1 above. Barrus further teaches wherein, characterized in that the "startmode"

attribute can take one of the following values: a "restart" value, which indicates that the media item should always start from the beginning, a "resume" default value, which indicates that the media items should always start from the position it stopped, a "laststop" value, which indicates that the media item should always start at the media time the last continuous media item contained in the same "choose" element stopped, a "playtime" value, which indicates that the media item should always start at the time, which is the combined playtime of all media items contained in the "choose" element since the "choose" element is started, and a "contplaytime" value, which indicates that the media item should always start at the time, which is the combined playtime of all continuous media items contained in the "choose" element since the "choose" element is started (**a set of on-screen or physical buttons are used to control recording.**

Buttons for audio control are well-known and include "Record", "Play", "Stop", "Pause", "Fast Forward", "Rewind" – col. 5, lines 57-60.

Regarding claim 28, Rutledge, Barrus and Yoshimura taught the method according to claim 1 above. Barrus further teaches wherein, characterized in that the "Adaptation Description Module" supplies the "choose" element with an "onremove" attribute specifying what happens after a continuous media item is played back (**Fig. 2A -- In one embodiment, as recorded audio is replayed, progress puck 233 moves along audio gauge 232 so as to indicate both the amount of recorded audio replayed as well as the amount of recorded audio remaining to be replayed).**

Regarding claim 29, Rutledge, Barrus and Yoshimura taught the method according to claim 1 above. Barrus further teaches wherein, characterized in that the "Adaptation

Description Module" provides the "choose" element with an "evaluation" attribute which specifies if the content model of the element "choose" is evaluated once at start-up time, repeatedly in a specific time period or continuously while playing back the multimedia presentation (**Fig. 2A -- In one embodiment, as recorded audio is replayed, progress puck 233 moves along audio gauge 232 so as to indicate both the amount of recorded audio replayed as well as the amount of recorded audio remaining to be replayed).**

Regarding claim 30, Rutledge, Barrus and Yoshimura taught the method according to claim 1 above. Barrus further teaches wherein, characterized in that the "Adaptation Description Module" provides the "choose" element with an "empty" attribute which supports the functionality that the set of media appropriate for specific current situation can be empty (**user presses stop button or when the system detects end of speech – col. 10, lines 4-6).**

Regarding claim 31, Rutledge, Barrus and Yoshimura taught the method according to claim 1 above. Rutledge further teaches wherein, characterized in that the evaluation of the associated priority of an adaptation possibility is done by sorting all children of a par element according to their priority, merging the configurations of the first two child elements by means of an "AND" operator in such a way that the priority of the resulting configurations consist of the priority of the higher prioritized child appended with the priority of the lower-prioritized child, and repeatedly merging the result with all other children of the par element (**the <seq> element is a sequence of videos plays each**

video until it ends, the starts the next video; The <par> element specifies that its children play in parallel, starting in the same time – page. 81).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sulaiman Nooristany whose telephone number is (571) 270-1929. The examiner can normally be reached on M-F from 9 to 5. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jeff Pwu, can be reached on (571) 272-6798. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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/Jeffrey Pwu/

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Art Unit: 2446

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Supervisory Patent Examiner, Art Unit 2446